

SAF-RC-087
618-7 Burial Ground - Soil
FINAL DATA PACKAGE

Rick Kerkow	L6-06	<u>KW 7/1/08</u> Initials/Date
Kathy Wendt	H4-21	<u>KW 7/1/08</u> Initials/Date

Rad only X Chem only Rad & Chem

X Complete Partial

RECEIVED
JUL 07 2008
EDMC



1 July 2008



Joan Kessner
WC-Hanford
2620 Fermi Avenue
MSIN H9-03
Richland, WA 99354

Subject: Analytical Data Package

Dear Ms. Kessner:

Enclosed are the hard copy analytical reports for the batch number/fraction indicated (marked X) in the following table:

LvLI Batch #	0805L220
SDG #	K1246
SAF #	RC-087
Date Received	6/3/08
# Samples	2
Matrix	SOIL
Volatiles	
Semivolatiles	
Pest/PCB	
Glycols	
DRO/KRO/GRO	
GC Alcohols	
Herbicides	
Metals	X
Inorganics	

The electronic data deliverable (EDD) will be emailed shortly. If you have any questions, please don't hesitate to contact me at (610) 280-3012.

Sincerely,
Lionville Laboratory Incorporated

Orlette S. Johnson
Project Manager

r:\group\pm\orlette\tnu-hanford\data\b_1trs.doc

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-087 K1246



DATE RECEIVED: 06/03/08

LVL LOT # : 08061220

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
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J16W17

TCLP	001	S	08LT0054	05/22/08	06/09/08	06/12/08
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J16W18

TCLP	002	S	08LT0054	05/23/08	06/09/08	06/12/08
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J16W17

SILVER, TCLP LEACHAT	003	W	08L0233	06/11/08	06/16/08	06/16/08
SILVER, TCLP LEACHAT	003 REP	W	08L0233	06/11/08	06/16/08	06/16/08
SILVER, TCLP LEACHAT	003 MS	W	08L0233	06/11/08	06/16/08	06/16/08
ARSENIC, TCLP LEACHA	003	W	08L0233	06/11/08	06/16/08	06/16/08
ARSENIC, TCLP LEACHA	003 REP	W	08L0233	06/11/08	06/16/08	06/16/08
ARSENIC, TCLP LEACHA	003 MS	W	08L0233	06/11/08	06/16/08	06/16/08
BARIUM, TCLP LEACHAT	003	W	08L0233	06/11/08	06/16/08	06/16/08
BARIUM, TCLP LEACHAT	003 REP	W	08L0233	06/11/08	06/16/08	06/16/08
BARIUM, TCLP LEACHAT	003 MS	W	08L0233	06/11/08	06/16/08	06/16/08
CADMIUM, TCLP LEACHA	003	W	08L0233	06/11/08	06/16/08	06/16/08
CADMIUM, TCLP LEACHA	003 REP	W	08L0233	06/11/08	06/16/08	06/16/08
CADMIUM, TCLP LEACHA	003 MS	W	08L0233	06/11/08	06/16/08	06/16/08
CHROMIUM, TCLP LEACH	003	W	08L0233	06/11/08	06/16/08	06/16/08
CHROMIUM, TCLP LEACH	003 REP	W	08L0233	06/11/08	06/16/08	06/16/08
CHROMIUM, TCLP LEACH	003 MS	W	08L0233	06/11/08	06/16/08	06/16/08
MERCURY, TCLP LEACHA	003	W	08C0106	06/11/08	06/16/08	06/17/08
MERCURY, TCLP LEACHA	003 REP	W	08C0106	06/11/08	06/16/08	06/17/08
MERCURY, TCLP LEACHA	003 MS	W	08C0106	06/11/08	06/16/08	06/17/08
LEAD, TCLP LEACHATE	003	W	08L0233	06/11/08	06/16/08	06/16/08
LEAD, TCLP LEACHATE	003 REP	W	08L0233	06/11/08	06/16/08	06/16/08
LEAD, TCLP LEACHATE	003 MS	W	08L0233	06/11/08	06/16/08	06/16/08
SELENIUM, TCLP LEACH	003	W	08L0233	06/11/08	06/16/08	06/16/08
SELENIUM, TCLP LEACH	003 REP	W	08L0233	06/11/08	06/16/08	06/16/08
SELENIUM, TCLP LEACH	003 MS	W	08L0233	06/11/08	06/16/08	06/16/08

J16W18

SILVER, TCLP LEACHAT	004	W	08L0233	06/11/08	06/16/08	06/16/08
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Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-087 K1246

DATE RECEIVED: 06/03/08

LVL LOT # :0806L220

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ARSENIC, TCLP LEACHA	004	W	08L0233	06/11/08	06/16/08	06/16/08
BARIUM, TCLP LEACHAT	004	W	08L0233	06/11/08	06/16/08	06/16/08
CADMIUM, TCLP LEACHA	004	W	08L0233	06/11/08	06/16/08	06/16/08
CHROMIUM, TCLP LEACH	004	W	08L0233	06/11/08	06/16/08	06/16/08
MERCURY, TCLP LEACHA	004	W	08C0106	06/11/08	06/16/08	06/17/08
LEAD, TCLP LEACHATE	004	W	08L0233	06/11/08	06/16/08	06/16/08
SELENIUM, TCLP LEACH	004	W	08L0233	06/11/08	06/16/08	06/16/08

LAB QC:

SILVER LABORATORY	LC1 BS	W	08L0233	N/A	06/16/08	06/16/08
SILVER, TCLP LEACHAT	MB1	W	08L0233	N/A	06/16/08	06/16/08
SILVER, TCLP LEACHAT	MB2	W	08L0233	N/A	06/16/08	06/16/08
ARSENIC LABORATORY	LC1 BS	W	08L0233	N/A	06/16/08	06/16/08
ARSENIC, TCLP LEACHA	MB1	W	08L0233	N/A	06/16/08	06/16/08
ARSENIC, TCLP LEACHA	MB2	W	08L0233	N/A	06/16/08	06/16/08
BARIUM LABORATORY	LC1 BS	W	08L0233	N/A	06/16/08	06/16/08
BARIUM, TCLP LEACHAT	MB1	W	08L0233	N/A	06/16/08	06/16/08
BARIUM, TCLP LEACHAT	MB2	W	08L0233	N/A	06/16/08	06/16/08
CADMIUM LABORATORY	LC1 BS	W	08L0233	N/A	06/16/08	06/16/08
CADMIUM, TCLP LEACHA	MB1	W	08L0233	N/A	06/16/08	06/16/08
CADMIUM, TCLP LEACHA	MB2	W	08L0233	N/A	06/16/08	06/16/08
CHROMIUM LABORATORY	LC1 BS	W	08L0233	N/A	06/16/08	06/16/08
CHROMIUM, TCLP LEACH	MB1	W	08L0233	N/A	06/16/08	06/16/08
CHROMIUM, TCLP LEACH	MB2	W	08L0233	N/A	06/16/08	06/16/08
MERCURY LABORATORY	LC1 BS	W	08C0106	N/A	06/16/08	06/16/08
MERCURY, TOTAL	MB1	W	08C0106	N/A	06/16/08	06/16/08
MERCURY, TCLP LEACHA	MB2	W	08C0106	N/A	06/16/08	06/17/08
LEAD LABORATORY	LC1 BS	W	08L0233	N/A	06/16/08	06/16/08
LEAD, TCLP LEACHATE	MB1	W	08L0233	N/A	06/16/08	06/16/08
LEAD, TCLP LEACHATE	MB2	W	08L0233	N/A	06/16/08	06/16/08
SELENIUM LABORATORY	LC1 BS	W	08L0233	N/A	06/16/08	06/16/08
SELENIUM, TCLP LEACH	MB1	W	08L0233	N/A	06/16/08	06/16/08
SELENIUM, TCLP LEACH	MB2	W	08L0233	N/A	06/16/08	06/16/08

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Analytical Report

Client: TNU-HANFORD RC-087
LVL#: 0806L220
SDG/SAF#: K1246/RC-087

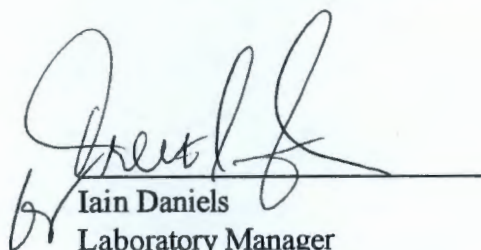
W.O.#: 11343-606-001-9999-00
Date Received: 06-03-08

METALS CASE NARRATIVE

The following is a summary of the QC results accompanying the sample results. Lionville Laboratory (LvLI) certifies that all test results meet the requirements of NELAC except as noted below.

1. This narrative covers the analyses of 2 TCLP leachate samples.
2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary. The samples were reported with 6-fold dilutions for ICP metals due to sample matrix.
3. All analyses were performed within the required holding times.
4. Please refer to the Sample Receipt Check List for sample discrepancies in LvLI's sample acceptance policy.
5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury).
6. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the LOQ).
7. All preparation/method blanks (MB) were within method criteria {less than the Limit of Quantitation (3-10X the LOD), MB value less than 5% of the RCRA limit, or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.
8. All ICP Interference Check Standards were within control limits.
9. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to the Inorganics Laboratory Control Standards Report.
10. The duplicate analysis for 1 analyte was outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

11. The TCLP extract from sample J16W17 was selected for the matrix spike (MS) for this analytical batch. All MS recoveries were greater than 50% as per method criteria.
12. For the purposes of this report, the data has been reported to the Limit of Detection (LOD). Values between the LOD and the Limit of Quantitation (LOQ) are acquired in a region of less-certain quantification.
13. LvLI is NELAP accredited by the state of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.
14. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.


Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

jjw/m08-220

6/20/08
Date



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METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within 1
 Lot#: 0806L220

Leaching Procedure: 1310 ~~1311~~ 1312 Other: _____

CLP Metals Digestion and Analysis Methods: ILM03.0 ILM04.0

Metals Digestion Methods: 3005A ~~3010A~~ 3015 3020A 3050B 3051 200.7 SS17
 Other: _____

Metals Analysis Methods

	SW846	EPA	STD MTD	EPA OSWR	USATHAMA
Aluminum	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Antimony	<u>6010B</u> <u>7041</u> ^s	<u>200.7</u> <u>204.2</u>			<u>99</u>
Arsenic	6010B <u>7060A</u> ^s	<u>200.7</u> <u>206.2</u>	<u>3113B</u>		<u>99</u>
Barium	6010B	<u>200.7</u>			<u>99</u>
Beryllium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Bismuth	<u>6010B</u> ¹	<u>200.7</u> ¹		<u>1620</u>	<u>99</u>
Boron	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Cadmium	6010B <u>7131A</u> ^s	<u>200.7</u> <u>213.2</u>			<u>99</u>
Calcium	<u>6010B</u>	<u>200.7</u>			<u>SS17</u>
Chromium	6010B <u>7191</u> ^s	<u>200.7</u> <u>218.2</u>			<u>99</u>
Cobalt	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Copper	<u>6010B</u> <u>7211</u> ^s	<u>200.7</u> <u>220.2</u>			<u>99</u>
Iron	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Lead	6010B <u>7421</u> ^s	<u>200.7</u> <u>239.2</u>	<u>3113B</u>		<u>99</u>
Lithium	<u>6010B</u> <u>7430</u> ^s	<u>200.7</u>		<u>1620</u>	<u>99</u>
Magnesium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Manganese	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Mercury	7470A ^s <u>7471A</u> ^s	<u>245.1</u> ² <u>245.5</u> ²			<u>99</u>
Molybdenum	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Nickel	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Potassium	<u>6010B</u> <u>7610</u> ^s	<u>200.7</u> <u>258.1</u> ^s			<u>99</u>
Rare Earths	<u>6010B</u> ¹	<u>200.7</u> ¹		<u>1620</u>	<u>99</u>
Selenium	6010B <u>7740</u> ^s	<u>200.7</u> <u>270.2</u>	<u>3113B</u>		<u>99</u>
Silicon	<u>6010B</u> ¹	<u>200.7</u>		<u>1620</u>	<u>99</u>
Silica	<u>6010B</u>	<u>200.7</u>		<u>1620</u>	<u>99</u>
Silver	6010B <u>7761</u> ^s	<u>200.7</u> <u>272.2</u>			<u>99</u>
Sodium	<u>6010B</u> <u>7770</u> ^s	<u>200.7</u> <u>273.1</u> ^s			<u>99</u>
Strontium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Thallium	<u>6010B</u> <u>7841</u> ^s	<u>200.7</u> <u>279.2</u> <u>200.9</u>			<u>99</u>
Tin	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Titanium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Uranium	<u>6010B</u> ¹	<u>200.7</u> ¹		<u>1620</u>	<u>99</u>
Vanadium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Zinc	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Zirconium	<u>6010B</u> ¹	<u>200.7</u> ¹		<u>1620</u>	<u>99</u>

Other: _____

Method: _____

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.

MS = Matrix Spike.

MSD = Matrix Spike Duplicate.

REP = Sample Replicate

LCS = Laboratory Control Sample.

NC = Not calculated.

ANALYTICAL METAL METHODS

1. Not included in the method element list.
2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, approximately 0.3 grams of sample is taken to a final volume of 50 mL (including all reagents).
3. Flame AA.
4. Graphite Furnace AA.

L-W1-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 06/18/08

CLIENT: TNUHANFORD RC-087 K1246

LVL LOT #: 0806L220

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
=====	=====	=====	=====	=====	=====	=====
-003	J16W17	Silver, TCLP Leachate	6.0	u UG/L	6.0	6.0
		Arsenic, TCLP Leachate	30.0	u UG/L	30.0	6.0
		Barium, TCLP Leachate	764	UG/L	6.0	6.0
		Cadmium, TCLP Leachate	1110	UG/L	3.0	6.0
		Chromium, TCLP Leachate	12.0	u UG/L	12.0	6.0
		Mercury, TCLP Leachate	0.06	u UG/L	0.06	1.0
		Lead, TCLP Leachate	18.0	u UG/L	18.0	6.0
		Selenium, TCLP Leachate	36.0	u UG/L	36.0	6.0
-004	J16W18	Silver, TCLP Leachate	6.0	u UG/L	6.0	6.0
		Arsenic, TCLP Leachate	30.0	u UG/L	30.0	6.0
		Barium, TCLP Leachate	537	UG/L	6.0	6.0
		Cadmium, TCLP Leachate	10.1	UG/L	3.0	6.0
		Chromium, TCLP Leachate	38.3	UG/L	12.0	6.0
		Mercury, TCLP Leachate	0.06	u UG/L	0.06	1.0
		Lead, TCLP Leachate	55.7	UG/L	18.0	6.0
		Selenium, TCLP Leachate	36.0	u UG/L	36.0	6.0

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Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 06/18/08

CLIENT: TNUHANFORD RC-087 K1246

LVL LOT #: 0806L220

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
=====	=====	=====	=====	=====	=====	=====
BLANK1	08L0233-MB1	Silver, TCLP Leachate	1.0	u UG/L	1.0	1.0
		Arsenic, TCLP Leachate	8.5	UG/L	5.0	1.0
		Barium, TCLP Leachate	1.7	UG/L	1.0	1.0
		Cadmium, TCLP Leachate	0.61	UG/L	0.50	1.0
		Chromium, TCLP Leachate	2.5	UG/L	2.0	1.0
		Lead, TCLP Leachate	4.6	UG/L	3.0	1.0
		Selenium, TCLP Leachate	6.0	u UG/L	6.0	1.0
BLANK2	08L0233-MB2	Silver, TCLP Leachate	6.0	u UG/L	6.0	6.0
		Arsenic, TCLP Leachate	30.0	u UG/L	30.0	6.0
		Barium, TCLP Leachate	6.0	u UG/L	6.0	6.0
		Cadmium, TCLP Leachate	3.0	u UG/L	3.0	6.0
		Chromium, TCLP Leachate	12.0	u UG/L	12.0	6.0
		Lead, TCLP Leachate	18.0	u UG/L	18.0	6.0
		Selenium, TCLP Leachate	36.0	u UG/L	36.0	6.0
BLANK1	08C0106-MB1	Mercury, Total	0.06	u UG/L	0.06	1.0
BLANK2	08C0106-MB2	Mercury, TCLP Leachate	0.06	u UG/L	0.06	1.0

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Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 06/18/08

CLIENT: TNUHANFORD RC-087 K1246

LVL LOT #: 0806L220

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
=====	=====	=====	=====	=====	=====	=====	=====
-003	J16W17	Silver, TCLP Leachate	4940	6.0 u	5000	98.8	6.0
		Arsenic, TCLP Leachate	5010	30.0 u	5000	100.1	6.0
		Barium, TCLP Leachate	97300	764	100000	96.6	6.0
		Cadmium, TCLP Leachate	2090	1110	1000	97.6	6.0
		Chromium, TCLP Leachat	5040	12.0 u	5000	100.9	6.0
		Mercury, TCLP Leachate	189	0.06u	200	94.6	50.0
		Lead, TCLP Leachate	5070	18.0 u	5000	101.4	6.0
		Selenium, TCLP Leachat	1010	36.0 u	1000	101.0	6.0

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Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 06/18/08

CLIENT: TNUHANFORD RC-087 K1246

LVL LOT #: 0806L220

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
=====	=====	=====	=====	=====	=====	=====
-003REP	J16W17	Silver, TCLP Leachate	6.0 u	6.0 u	NC	6.0
		Arsenic, TCLP Leachate	30.0 u	30.0 u	NC	6.0
		Barium, TCLP Leachate	764	749	2.1	6.0
		Cadmium, TCLP Leachate	1110	1070	4.1	6.0
		Chromium, TCLP Leachate	12.0 u	19.6	NC 200	6.0
		Mercury, TCLP Leachate	0.06u	0.06u	NC	1.0
		Lead, TCLP Leachate	18.0 u	18.0 u	NC	6.0
		Selenium, TCLP Leachate	36.0 u	36.0 u	NC	6.0

*corrected value
MW
6/19/08*

000000010

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 06/18/08

CLIENT: TNUHANFORD RC-087 K1246

LVL LOT #: 0806L220

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
=====	=====	=====	=====	=====	=====	=====
LCS1	08L0233-LC1	Silver, LCS	487	500	UG/L	97.4
		Arsenic, LCS	9850	10000	UG/L	98.5
		Barium, LCS	4890	5000	UG/L	97.7
		Cadmium, LCS	251	250	UG/L	100.5
		Chromium, LCS	500	500	UG/L	100.1
		Lead, LCS	2490	2500	UG/L	99.7
		Selenium, LCS	9790	10000	UG/L	97.9
LCS1	08C0106-LC1	Mercury, LCS	5.0	5.0	UG/L	99.5

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Page#052

Lionville Laboratory
Incorporated

MERCURY PREPARATION

Analyst: TRG
Date: 6/14/08
Start Time/Temp: 1430 / 93°
End Time/Temp: 1630 / 94°

Instrument ID: H63.1
Balance #: NA
Pipette Calibration (Daily) Y ☒

Logbook #: 455
Prep Batch: 08C0106
Worksheet: H6061601/H6061701
SOP No. ME-HgCVAA, Rev. 02

pH < 2 for Liquids? ☒ Yes ☐ No (If no: designate affected samples in Comments column, and initiate an SDR)

NOTE: The Initial/Final Volume for water samples = 33mL, unless otherwise noted.
The Final volume for soil samples = 50mL, unless otherwise noted.

LVI Batch #	Container Number	Spike Volume (mL)	Spike Conc. (µg/L)	Initial Wt. or Volume (g or mL)	Final Sample Volume (mL)	Comments, % Solids, etc.
Blank	R2			33mL	33mL	
0.2 µg/L	71L	0.0667				
1.0	JE	0.334				
2.0	AN	0.667				
5.0	L2	1.667				
10.0	A1	3.334				
ICV	K	0.0834	2.5			
CCV	1721	0.167	5.0			
ICB/CCB	6T					
MB1	411					PBW106
LCL	LS3	0.167	5.0			LCSW106
0805L217-014	WJ					
014R	B2					
014S	205	0.334	1.0			
014T	308	0.334	1.0			
015	RU					
016	31					
017	H3					
018	HR					
019	I94					
020	8T					
021	WK					
022	92					
023	700					
024	194					
025	K17					
026	NJ					

Standard:	ID	Prep Date/Time
ICALMS	R1 6572-78-14B	6/14/08 1130
ICV/CCV/LCS	US 6572-78-15A	

Reviewed By/Date: Andrew Maly 6/18/08

see book # 9368 for std traceability information

Soil LCS = US Metals in soil No.3; True Value = 4.70 mg/Kg
Catalogue #1RM-021, Lot # E021

Water Matrix Spiking Solution Concentration = 0.1 µg/ml
Water LCS Spiking Concentration: 1.0 µg/ml

Lionville Laboratory
Incorporated

MERCURY PREPARATION

Logbook # 0455

Analyst: CEB

Instrument ID HV3.1

Prep Batch: 08C0106

Date 6/16/08

Balance #: 0NA

Worksheet: LV061601/HV021701

Start Time/Temp: 03:27

Pipette Calibration (Daily) Y

SOP No. ME-HgCVAA, Rev. 02

End Time/Temp: 03:27

pH < 2 for Liquids? Yes No (If no: designate affected samples in Comments column, and initiate an SDR)

NOTE: The Initial/Final Volume for water samples = 33mL, unless otherwise noted.

The Final volume for soil samples = 50mL, unless otherwise noted.

LvLI Batch #	Container Number	Spike Volume (mL)	Spike Conc. (µg/L)	Initial Wt. or Volume (g or mL)	Final Sample Volume (mL)	Comments, % Solids, etc.
08X6L220-003	LV			33mL	33mL	
W3R	DR					
W3S	41	0.167	200			
004	JS					
08LTD053-LA1	WN					
2Doc 1	C9	0.167	0.5			
2	522	0.167	0.5			
3	A27	0.167	0.5			
4	Cd	0.167	0.5			
STD	3H					
End of page						

Standard:	ID	Prep Date/Time
ICAL/MS		
ICV/CCV/LCS		

Reviewed By/Date: [Signature]

see book # 9368 for std traceability information

Soil LCS = US Metals in soil No.3; True Value = 4.70 mg/Kg
Catalogue #1RM-021, Lot # E021

Water Matrix Spiking Solution Concentration = 0.1 µg/ml
Water LCS Spiking Concentration: 1.0 µg/ml

nt TNU HANFORD SAF# RC-087

Final Proj. Sampling Date _____

ect# 11343-606-001-9999-00

ect Contact/Phone# _____

ville Laboratory Project Manager O. JOHNSON

SW846 Del STO TAT 7 Day

Rec'd 6-3-08 Date Due 6-10-08

[illegible][illegible]

Special Instructions:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Relinquished by	Received by	Date	Time
W.E.	V. Harvey	4/5/68	1025

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		COMPOSITE	WASTE ^{TC}

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-087-155		Page 1 of 1	
Director B Lawrence, E. Harries		Company Contact Joan Kessner		Telephone No. 509-375-4688		Project Coordinator KESSNER, JH		Price Code 9F	
Object Designation 618-7 Burial Ground - Soil		Sampling Location 618-7 Burial Ground/Stockpiles		SAF No. RC-087		Data Turnaround 15 Days 5/22/08			
Chest No. PCL-08-002		Field Logbook No. EL-1395-13		COA RG61872600		Method of Shipment Fed Ex			
Shipped To WEBERLINE SERVICES (LIONVILLE)		Offsite Property No. A080287		Bill of Lading/Air Bill No. See B5PC					
Possible Sample Hazards/Remarks Potential Radiological and Beryllium contamination		Preservation		None					
		Type of Container		P					
		No. of Container(s)		1					
		Volume		500mL					
Special Handling and/or Storage None				See item (1) in Special Instructions.					
SAMPLE ANALYSIS									
Sample No.	Matrix *	Sample Date	Sample Time						
6W15	SOIL	5-22-08	1250	X				J16VP5	B-008
6W16	SOIL	5-22-08	1300	X				J16VP6	B-009
6W17	SOIL	5-22-08	1310	X				J16VP7	B-010
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS				Matrix *	
Inquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		(1) Metals by ICP (TCLP) - 1311/6010 (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury (TCLP) - 1311/7470 None nitro	
Harries, E. Harries		5/22/08		RT C. Offman		5/22/08			
Inquished By/Removed From		Date/Time		Received By/Stored In		Date/Time			
ICOFFMAN, R. C. Offman		5/22/08		J. DeBorja		5-22-08			
Inquished By/Removed From		Date/Time		Received By/Stored In		Date/Time			
P. DeBorja		6/2/08		FED EX					
Inquished By/Removed From		Date/Time		Received By/Stored In		Date/Time			
Inquished By/Removed From		Date/Time		Received By/Stored In		Date/Time			
Inquished By/Removed From		Date/Time		Received By/Stored In		Date/Time			
LABORATORY SECTION		Received By		Title		Date/Time			
ANAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time			

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Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-087-156		Page 1 of 1	
Collector B Lawrence, E. Harries		Company Contact Joan Kessner		Telephone No. 509-375-4688		Project Coordinator KESSNER, JH		Price Code 8F	
Project Designation 618-7 Burial Ground - Soil		Sampling Location 618-7 Burial Ground/Stockpiles		SAF No. RC-087		Data Turnaround 15 Days			
ce Chest No. <u>RC-087002</u>		Field Logbook No. EL-1395-13		COA RG61872600		Method of Shipment Fed Ex			
Shipped To EBERLINE SERVICES/ <u>LIONVILLE</u>		Offsite Property No. <u>A080287</u>		Bill of Lading/Air Bill No. <u>See OSDC</u>					
POSSIBLE SAMPLE HAZARDS/REMARKS Potential Radiological and Beryllium contamination Special Handling and/or Storage None		Preservation		None					
		Type of Container		P					
		No. of Container(s)		1					
		Volume		500mL					
SAMPLE ANALYSIS				See item (1) in Special Instructions.					
Sample No.		Matrix *		Sample Date		Sample Time			
16W18		SOIL		5-23-08		0745		X	
16W19		SOIL		5-23-08		0750		X	
16W20		SOIL		5-23-08		0755		X	
16W21		SOIL		5-23-08		0800		X	
16W22		SOIL		5-23-08		0805		X	
CHAIN OF POSSESSION				Sign/Print Names		SPECIAL INSTRUCTIONS			
Relinquished By/Removed From <u>B Lawrence</u>		Date/Time <u>5-23-08 0900</u>		Received By/Stored In <u>RB KERN</u>		Date/Time <u>5-23-08 0900</u>		None (1) Metals by ICP (TCLP) - 1311/6010 (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury (TCLP) - 1311/7470 Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.	
Relinquished By/Removed From <u>RB KERN</u>		Date/Time <u>5-23-08 0930</u>		Received By/Stored In <u>REF 1B, 1060</u>		Date/Time <u>5-23-08 0930</u>			
Relinquished By/Removed From <u>Ref 1B, 1060</u>		Date/Time <u>6-2-08 0830</u>		Received By/Stored In <u>SP2-Buigne</u>		Date/Time <u>6-2-08 0830</u>			
Relinquished By/Removed From <u>SP2-Buigne</u>		Date/Time <u>6-2-08 0930</u>		Received By/Stored In <u>Fed Ex</u>		Date/Time			
Relinquished By/Removed From <u>Ref 1B</u>		Date/Time <u>6-3-08 1025</u>		Received By/Stored In <u>Ref 1B</u>		Date/Time <u>6-3-08 1025</u>			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time			
LABORATORY SECTION		Received By		Title		Date/Time		Matrix * S=Soil SE=Sediment SO=Solid SL=Sludge W=Water OO=Oil A=Air DS=Dry Solids DL=Dry Liquids TL=Tissue WI=Wipe L=Liquid V=Vegetation X=Other	
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time			

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TIE TO

nts

Ref

**Lionville Laboratory Incorporated
SAMPLE RECEIPT CHECKLIST (SRC)**

CLIENT: TNU HANFORD
Project/SAF/SQW/Release #: RC-087

Date: 6/3/08

LvLI Batch #: 0806L220

Sample Custodian: Pat Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

- | | | |
|---|---|---|
| 1. Samples Hand Delivered <u>or Shipped?</u> | Carrier <u>FEDEX</u> | Airbill # <u>79895296 6682</u> |
| 2. Custody Seals on coolers or shipping containers intact, signed & dated? | ☒ Yes ☐ No | ☐ No Seals |
| 3. Outside of coolers or shipping containers are free from damage? | ☒ Yes ☐ No | Comments: |
| 4. All expected paperwork received (coc & other client specific information) sealed in plastic bag and easily accessible? | ☒ Yes ☐ No | |
| 5. Samples received cooled or ambient? | Temp <u>21.2</u> °C | Cooler # <u>RC-08-002</u> |
| How was the temperature taken? | ☒ IR ☐ Temp. Blank | ☐ Other (Specify): |
| Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C) | ☐ Yes ☒ No | |
| 6. Custody seals on sample containers intact, signed and dated? | ☒ Yes ☐ No | ☐ No Seals |
| 7. COC (Client & LvLI) signed & dated? | ☒ Yes ☐ No | |
| 8. Sample containers are intact? | ☒ Yes ☐ No | |
| 9. All samples on COC received? | ☒ Yes ☐ No | |
| All samples received on COC? | ☒ Yes ☐ No | |
| 10. All sample label information matches COC? | ☒ Yes ☐ No | |
| 11. Samples properly preserved? (If #5 is no, then this is no.) | ☐ Yes ☒ No | |
| 12. Samples received within hold times? | ☒ Yes ☐ No | |
| Short holds taken to wet lab? | ☐ Yes ☐ No | ☒ N/A |
| 13. VOA, TOC, TOX free of headspace? | ☐ Yes ☐ No | ☒ N/A |
| 14. QC stickers placed on bottles designated by client? | ☐ Yes ☐ No | ☒ N/A |
| 15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.) | ☒ Yes ☐ No | |
| 16. Project Manager contacted concerning any discrepancies? | ☒ Yes ☐ No | ☐ N/A |
| Person Contacted <u>O. JOHNSON</u> | Date <u>6-3-08</u> | |

